

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
	General Technical Requirements					
TEC 1.00	Comply with State of Tennessee Information Resources Architecture (attached)					
TEC 2.00	System modules are fully integrated (data is stored and updated in only one place)					
TEC 3.00	Is table-driven with online screens to control parameters					
TEC 4.00	Allows for effective dated transactions and table updates (either future dated or retroactive) with the ability to specify data edits by type of transaction					
TEC 5.00	Provides the following capabilities:					
TEC 5.01	Real-time update of tables from end-user input screens without the use of batch processes. All input (batch and on-line) is edited via State defined parameters prior to processing.					
TEC 5.02	100% Web-enabled architecture					
TEC 6.00	Supports architecture compatible with:					
TEC 6.01	Standard message based API's					
TEC 6.02	Wireless Access					
TEC 6.03	Graphical User Interface (GUI)					
TEC 6.04	Enterprise Workflow					
TEC 6.05	Application Server					
TEC 6.06	Web Server					
TEC 6.07	Report Server					
TEC 6.08	IIS (Internet Information Server)					
TEC 7.00	System should support the following data-transfer methods:					
TEC 7.01	XML (compliant with government standards)					
TEC 7.02	EDI					
TEC 7.03	Flat file (I.e., ASCII, variable and/or fixed length, comma-delimited, etc)					
TEC 8.00	System should provide Enterprise Application Integration (EAI) functionality:					
TEC 8.01	Connectivity services -- transports data across different networks and protocols					
TEC 8.02	Interfacing services -- API and database access, including adapters for market-leading ERP systems and other applications					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 8.03	Communication services -- guarantees message delivery and handles queuing and encryption for various types of communication (e.g., publish and subscribe, request/reply, etc.)					
TEC 8.04	Data-flow services -- routes data to the appropriate destination(s) and filters messages					
TEC 8.05	Data-mapping services -- links data to the appropriate meaning in different schemas					
TEC 8.06	Data-transformation services -- handles data validation, calculations, lookups, padding, truncation, etc.					
TEC 8.07	Transaction processing services -- manages transactions across multiple applications					
TEC 8.08	Business-process-flow services -- groups and links data flows to automate the steps in a business transaction					
TEC 8.09	Should support Web Services functionality (i.e., UDDI, WSDL, SOAP, etc.)					
TEC 9.00	Runs on the following server types and server operating systems:					
TEC 9.01	OS390 (or latest version)					
TEC 9.02	SUN SOLARIS (latest version)					
TEC 9.03	LINUX					
TEC 9.04	Windows NT/XP Server (latest version)					
TEC 10.00	Runs on the following desktop operating systems (for non Web based functions):					
TEC 10.01	Windows NT					
TEC 10.02	Windows 2000					
TEC 10.03	Windows XP (or latest version)					
TEC 11.00	Supports network protocols as defined in the State's standards document					
TEC 12.00	Contains toolsets to accommodate the following:					
TEC 12.01	Database maintenance (performance and tuning)					
TEC 12.02	Report design					
TEC 12.03	Security administration					
TEC 12.04	End-user interface design					
TEC 12.05	System upgrade administration					
TEC 12.06	API Maintenance					
TEC 12.07	OLAP Maintenance					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 12.08	Archiving/purging of data					
TEC 13.00	Meets HIPAA (Health Insurance Portability and Accountability Act) compliance rules.					
TEC 14.00	Complies with all ADA requirements					
TEC 15.00	System should maintain the state of the browser without cookies					
TEC 16.00	Access requirements through firewalls should be clearly identified and follow standard port designations where possible.					
TEC 17.00	System should be integrated with active directory products					
TEC 18.00	Provides support for load balancing					
TEC 19.00	System should provide for the simultaneous access to data by many concurrent users					
TEC 20.00	Provides ability to archive and retrieve all system data					
TEC 21.00	Administrator defined retention periods					
TEC 22.00	Deleted records are marked for deletion and not removed from the database until archived					
TEC 23.00	Administrator has the ability to reset deleted records (maintaining referential integrity)					
TEC 24.00	Provides method to access archived data when system architecture changes as a result of software upgrade.					
TEC 25.00	Ability to purge records upon request for records within a user-defined time and criteria.					
TEC 25.01	Validates integrity of database before and after purge					
TEC 25.02	Identifies orphaned records (e.g. records that do not have parent values)					
TEC 26.00	Ability to archive items on CD or on some other form of archive storage.					
TEC 27.00	System should provide a method to access, query, and report against archived data.					
TEC 28.00	System should provide method to access archived data when system architecture changes as a result of software upgrade.					
TEC 29.00	Ability to list all records included in purge.					
TEC 30.00	Ability to integrate proposed third party applications into the main menu structure.					
TEC 30.01	Menu structure is maintained during software upgrades for primary ERP system and third-party applications.					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 30.02	Vendor proposed third party applications reflect ERP system security profiles					
TEC 31.00	System includes a flexible resource accounting and management capability that is integrated with the ERP system (charge back)					
	Database Management System					
TEC 32.00	Supports RDBMS as specified in State's technical standards referenced above					
TEC 33.00	Provides table look-up fields that can be linked or refer to other tables.					
TEC 34.00	System provides for replication of table updates to multiple databases					
TEC 35.00	System should lock records at the lowest database level. Please describe how your solution performs database locking when multiple users are accessing the same record.					
TEC 36.00	System should provide standard query language (SQL) capabilities for database queries.					
TEC 37.00	Allows the creation of new data fields on-line (altering of database structure) and update a global data dictionary with these elements through proper security:					
TEC 37.01	New fields are included in migration paths during software upgrades.					
TEC 37.02	Data model documentation for accommodating new fields is included as part of upgrade strategy.					
	Input Methods and Devices					
TEC 38.00	Allows both online and batch entry of data.					
TEC 39.00	Performs updating from external batch sources (e.g., other application systems) through standard interface					
TEC 40.00	Provides the ability for online integration through standard message-based API's					
TEC 41.00	Edits may be defined by transaction type and input source					
TEC 42.00	Allows mass changes or deletes by table-driven data through proper security					
TEC 43.00	Supports gathering information from the following input devices such as:					
TEC 43.01	Keyboard					
TEC 43.02	Mouse					
TEC 43.03	Digital Imaging Devices					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 43.04	Touch screen					
TEC 43.05	Scanner					
TEC 43.06	Fax					
TEC 43.07	OCR Devices					
TEC 43.08	Bar code font reader					
TEC 43.09	Magnetic card readers					
TEC 43.10	Smart cards					
TEC 43.11	Form Template					
TEC 43.12	MICR					
TEC 43.13	PDA					
TEC 43.14	Phone (IVR or touchtone)					
TEC 43.15	Magnetic tape					
	Processing					
TEC 44.00	Has the ability to control priority of the batch process based on multiple user defined criteria					
TEC 45.00	Controls job start time.					
TEC 46.00	Controls job by transaction type					
TEC 47.00	Sequences multiple jobs based on user defined rules.					
TEC 48.00	Provides system-wide calendar which can be updated on-line by the user to schedule processing or control processing parameters.					
TEC 49.00	Provides various program checks for controlling data files, verifying correct processing, and ensuring data integrity, such as record counts, totals, limit checks, and dollar totals.					
TEC 50.00	Provide automatic reconciliation of all exported/imported data					
TEC 51.00	Integrates with third-party scheduling software for mainframe, UNIX, and Windows NT/XP as specified in State's standard					
	Interfaces					
TEC 52.00	Interfaces with popular desktop applications. (e.g., Microsoft Office)					
TEC 53.00	Provide standard interface for document management software. (included but not limited to current applications FileNet and VisiFLOW.)					
TEC 54.00	Interfaces with popular (e.g., MAPI, POP3, Groupwise) e-mail systems.					
TEC 55.00	Interfaces with fax software.					
TEC 56.00	Provides interface to telephony and IVR systems.					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 57.00	Supports use of an interface engine					
TEC 58.00	Supports use of an interface engine					
TEC 59.00	GIS Systems					
TEC 60.00	GPS Systems					
TEC 61.00	Existing enterprise systems (e.g., financial systems, patient billing)					
	Desktop Configuration					
TEC 62.00	Client stations may run under any hardware/OS configuration capable of supporting a current-generation Web browser (Netscape 4.00 or above, Microsoft Explorer 6.0 or above).					
TEC 63.00	System is web based and requires no installation on client workstations					
	User Interface					
TEC 64.00	Provides a consistent user interface across all components, including:					
TEC 64.01	Consistent function keys					
TEC 64.02	Screen naming functions					
TEC 64.03	Navigation patterns					
TEC 64.04	Consistent use of controls					
TEC 64.05	Help					
TEC 64.06	Menus (as defined by security profile)					
TEC 65.00	Utilizes on-line drop-down list of all valid values for each validated field.					
TEC 66.00	Provides immediate transfer of values from "Pop up" tables to the appropriate field when selected and to proceed to the next entry field.					
TEC 67.00	Provides simple keystrokes for rapid data entry.					
TEC 68.00	Accesses other input screens and modules without backing out of menus or menu paths.					
TEC 69.00	Supports short-cut keys to move between modules and menus.					
TEC 70.00	System supports cut and paste for copying data between windows					
TEC 71.00	Ability to navigate within multiple input screens without losing information input on the original (or header) screen.					
TEC 72.00	Ability to move backward within a menu structure without losing data.					
TEC 73.00	Ability to open multiple screens/windows.					
TEC 74.00	Supports list of recent values for each field (current session only)					
TEC 75.00	Supports partial queries in fields					
TEC 76.00	Supports user defined fields for the capture of State specific data					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 77.00	Contains an on-line calculation tool that can also insert a calculated value into a numeric value field.					
TEC 78.00	System provides the ability to attach and retrieve the following documents:					
TEC 78.01	Image files					
TEC 78.02	Word processing documents					
TEC 78.03	Spreadsheets					
TEC 78.04	Sound Files					
TEC 78.05	Video Files					
TEC 78.06	CAD files					
TEC 78.07	Text files (.txt)					
TEC 78.08	Other input device information as listed in the technical requirements					
TEC 79.00	Ability to manage attached unstructured data (please describe)					
TEC 80.00	Allows complete validation and editing of data at the point of entry (on-line or batch) based on user defined criteria (e.g., transactions, tables, archived records, transaction status, etc.)					
TEC 80.01	Validations for data entry include related fields					
TEC 81.00	End-user screens contain triggers to additional data screens based on a specific data input.					
TEC 82.00	Stores and saves user profile preferences.					
TEC 82.01	Font					
TEC 82.02	Colors					
TEC 82.03	Column and field location					
TEC 82.04	Workspace					
TEC 82.05	System must incorporate user preferences when system upgrades are applied (please describe)					
TEC 83.00	Parent and child transactions are linked for the purpose of data entry, and inquiry and provides the ability to go directly to the source document: for example:					
TEC 83.01	Voucher is linked to payment					
TEC 83.02	Purchase order is linked to invoice					
TEC 83.03	Paycheck is linked to timesheet					
	Help Capability					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 84.00	Provides on-line help features for all screen elements (screen errors and error codes).					
TEC 85.00	Utilizes an on-line help feature, which directs the user to help screens specific to the transaction for which they are processing					
TEC 86.00	Provides a context-sensitive help feature.					
TEC 87.00	Provides a user customizable help feature.					
	Workflow					
TEC 88.00	System supports user define workflow for any system event					
TEC 89.00	Supports an unlimited number of workflow steps					
TEC 90.00	Definition of workflow events may be based on user defined criteria, including:					
TEC 90.01	Transaction code					
TEC 90.02	Agency					
TEC 90.03	Data values (ex - purchase order exceeds \$10,000)					
TEC 90.04	Other user defined					
TEC 91.00	Routing of workflow may have multiple destinations based on criteria above					
TEC 92.00	Workflows may be designated as informational or action required (approval)					
TEC 93.00	Transaction is not finalized until approval workflows are complete					
TEC 94.00	Provide for routing of rejected transactions to any prior approver					
TEC 95.00	System provides an "inbox" for each user with workflow items to be reviewed					
TEC 96.00	System must support electronic signatures for approvals and rejections					
TEC 97.00	System provides tracking of workflow approvals and rejections					
TEC 98.00	Supports user defined transaction status, including approved, rejected, pending, under consideration					
TEC 99.00	The status of items submitted to workflow may be identified at any time					
TEC 100.00	Workflow destination may be specified as specific users or classes of users within agency or other user defined criteria					
TEC 101.00	Notifies users when items in their inbox have gone unprocessed for a user defined period of time					
TEC 102.00	Automatically routes transactions to a workgroup after a specific time of inaction (based on transaction type)					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 103.00	Approval authority may be delegated to another user for a specified period of time (to cover vacations, etc.)					
TEC 104.00	Steps in the workflow may be bypassed by allowing approvers higher in the approval steps to approve transactions before they arrive in their mailbox					
TEC 105.00	Provide a "master approver" for each workflow that may approve a transaction at any time whether or not they are included in the normal workflow					
TEC 106.00	Allows the attachment of additional documentation to workflow events (word documents, spreadsheets, etc.)					
	Query and Reporting					
TEC 107.00	The system supports federal and state government reporting requirements applicable to all modules/applications.					
TEC 108.00	Ability to drill down to supporting documents and related transactions from any field within the system.					
TEC 109.00	System generates ad-hoc queries and reports based on user defined parameters.					
TEC 110.00	Allow end-users to modify report queries on-line.					
TEC 111.00	Ad-hoc queries access any field or combination of fields within the system.					
TEC 112.00	Ability to include unstructured data in query results (ex - Word, FileNet and other documents attached to transactions). Please describe the capabilities for managing unstructured data					
TEC 113.00	On-line real-time reporting and query capability with the ability to reference a data dictionary					
TEC 114.00	Ability to search a range of data values					
TEC 115.00	Ability to drill down from summary balances to the supporting detail transactions and drill up from the detail transaction to the summary balance (e.g., overtime expense to payroll employees contributing to expense to projects/funds receiving charge).					
TEC 116.00	System administrator can terminate any query or report that significantly reduces system performance.					
TEC 117.00	System automatically cancels a query job if it fails to meet system administrator defined criteria (e.g., time limits).					
TEC 118.00	Ability to route reports to various network printers as defined by user.					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 119.00	Provides Administrator-defined limits on the time a report or query takes to execute and the number of records to be retrieved with user option to continue, cancel, or send to batch					
TEC 120.00	Provides multimedia report output (central printers, screen, data file, CD ROM, DVD, etc.).					
TEC 121.00	Provides reports on user production statistics by user ID.					
TEC 122.00	Provides query searching capabilities that can be used:					
TEC 122.01	To perform mass updates					
TEC 122.02	Search within a results set					
TEC 122.03	To perform free-form text searching					
TEC 122.04	With full "if..then..else"logic					
TEC 123.00	Uses smart queries such as "Ask Jeeves" technology					
TEC 124.00	Runs on-line reports in the background and allow users to continue processing.					
TEC 125.00	Runs reports on client or server.					
TEC 126.00	Provides for processing reports in batch					
TEC 127.00	Provides ability for the end-user to view print progress of any report.					
TEC 128.00	Provides ability to schedule and view print time for batch printing.					
TEC 129.00	Provides user the ability to specify number of copies of report to be printed.					
TEC 130.00	Provide ability to route reports via email					
TEC 131.00	Users can print a range of pages.					
TEC 132.00	Allows ad-hoc report/query definitions to be stored in private folders.					
TEC 133.00	Allows ad-hoc report/query definitions to be stored in public libraries.					
TEC 134.00	Report writer should have the following features or tools to assist end users in creating reports:					
TEC 134.01	Wizards to guide the users through reporting building steps					
TEC 134.02	Cursor selection of files, elements, and operands (e.g., +, -, /, *) from data dictionary or other pre-established lists					
TEC 134.03	Graphical report layout tools to assist users in formatting reports and inquires					
TEC 134.04	User friendly means of specifying form of output and distribution (e.g., distribute to named users through email, print at local printer, print at remote printer, fax, distribute as data file through specified medium of transmission, email, etc.).					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 135.00	Ability to generate reports that include user designed graphs and charts - at a minimum:					
TEC 135.01	Provides the ability to create graphic organizational charts from the reporting tool.					
TEC 135.02	Provides the ability to create line graphs from the reporting tool.					
TEC 135.03	Provides the ability to create pie charts from the reporting tool.					
TEC 135.04	Provides the ability to create stacked bar charts from the reporting tool.					
TEC 135.05	Provides the ability to create min/mid/max line graphs from the reporting tool.					
TEC 135.06	Provides the ability to create regression lines from the reporting tool.					
TEC 136.00	Provides ability to link from reporting tool to graphic, spreadsheet and presentation applications					
TEC 136.00	Provide ability to create reports with defined calculations					
TEC 137.00	Provides the ability to manipulate and report on data in spreadsheet format					
TEC 138.00	Allow reports to be saved in various formats					
TEC 138.01	External database					
TEC 138.02	Word processing format					
TEC 138.03	ASCII files					
TEC 138.04	Spreadsheets					
TEC 138.05	Text files (.txt)					
TEC 138.06	Other presentation formats (e.g., PDF format)					
TEC 139.00	Provides print preview capability					
TEC 140.00	Print preview contains fit to screen capability					
TEC 141.00	Provides for user defined record selection and ordering:					
TEC 141.01	Allows year-to-year, month-to-month, period-to-period, year to date and life to date comparisons on reports					
TEC 141.02	Provides the ability to report on any date during the month or year					
TEC 141.03	Generates reports based on user-defined thresholds and criteria (other than date)					
TEC 141.04	Allows users to define a sort order for reports					
TEC 141.05	Ability to suppress or select information based on logical operations on data fields					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 142.00	Provides user defined report formatting					
TEC 142.01	Reports capability includes control breaks and number of lines per page limits					
TEC 142.02	Reports include user-defined control breaks and number of print lines per page					
TEC 142.03	Reports can include end-user defined headings and borders					
TEC 142.04	Provides flexibility to users to indicate round numbers (or not) in report					
TEC 142.05	Allows users to define totals					
TEC 143.00	Provides the ability to create & print reports on special forms					
TEC 144.00	Provide ability to create reports which can carry totals forward from one report to another					
TEC 145.00	Provides a separate reporting database					
TEC 146.00	Updates reporting database on user defined schedule					
TEC 147.00	Support report distribution based on reporting conditions, such as user defined data values					
	Data Warehouse / Decision Support					
TEC 148.00	Data Warehouse should comply with the concept of portability by providing flexibility to run on multiple hardware platforms or provide built-in capabilities for switching between platforms without requiring re-installation or additional customization.					
TEC 149.00	Data Warehouse should be scalable to allow the State to size the Data Warehouse to meet its ever-changing business needs. Clients and servers can be added, upgraded or removed as computing capacity needs change, without reconfiguring the Data Warehouse and its' Analytical Applications.					
TEC 150.00	All Data Warehouse configurations/parameters must be table-driven instead of "hard coded."					
TEC 151.00	Data Warehouse must support online report viewing and printing of ad hoc reports.					
TEC 152.00	Design of the Data Warehouse should allow users to run ad hoc reports and queries without noticeable Data Warehouse performance degradation by the end users.					
TEC 153.00	Data Warehouse should have an active metadata dictionary that contains descriptions of all content within the Data Warehouse.					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 154.00	Refreshes to the Data Warehouse must be incremental and not a complete rebuild of the Data Warehouse.					
TEC 155.00	Refreshes to the Data Warehouse should occur as scheduled events or automatically.					
TEC 156.00	Data Warehouse should be tightly integrated with the System and should have a similar "look and feel" as the other applications comprising the System.					
TEC 157.00	Data Warehouse should have automated extract and load routines.					
TEC 158.00	Data Warehouse should provide administrative functionality to allow the data warehouse administrator the capability to monitor and maintain the Data Warehouse.					
TEC 159.00	Data Warehouse should have the ability to capture and maintain external data that is not part of the System.					
TEC 160.00	Data Warehouse must be modular to allow for the phase-in of Analytical Applications corresponding to the major functions or "modules" (e.g., Financial Management, Purchasing, Property Management, and Human Resources) of the System during implementation without disruption of State services.					
TEC 161.00	Analytical Applications comprising the functionality of the Data Warehouse must fully integrate business processes and associated data that cross modules of the System.					
TEC 162.00	Data Warehouse must provide the following process controls:					
TEC 162.01	Comprehensive edit, validation, and balancing controls which prevent incomplete or incorrect data from being processed					
TEC 162.02	Programmatic control of the process flow to prevent data from being processed in the wrong sequence					
TEC 162.03	Processing cycles completed in a logical and prescribed order					
TEC 162.04	Integrity of data entering the database, safeguarded through editing criteria					
TEC 162.05	Updating of tables/files upon completion of a logical unit of work according to State/agency business rules					
TEC 163.00	Data Warehouse must provide for user-controlled definition and maintenance of system values and business rules in tables without requiring programmer intervention or recompilation of programs.					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 164.00	Data Warehouse should provide integration with Micro Strategy repositories (please describe)					
TEC 165.00	Data Warehouse should provide the following Analytical Applications at a minimum:					
TEC 165.01	Financial Management					
TEC 165.02	Performance Management					
TEC 165.03	Purchasing Management					
TEC 165.04	Workforce Management					
TEC 166.00	Analytical Applications included with the Data Warehouse should have the following functionality/characteristics at a minimum:					
TEC 167.01	Straightforward and easy to learn and use					
TEC 168.02	Completely web-enabled					
TEC 169.03	Able to drill down from summary data to detail transaction data					
TEC 170.04	Present data in both tabular and graphical formats					
TEC 171.05	Tightly integrated with the Data Warehouse					
TEC 172.06	Analytical Applications have similar look and feel as other System applications					
TEC 173.00	Data Warehouse should provide the ability for users to customize their alerts and tracking of performance indicators					
TEC 174.00	Financial Management Analytical Application should have the following functions/capabilities at a minimum:					
TEC 174.01	Analyze actual versus budget data					
TEC 174.02	Allow comparisons of this year versus last year data					
TEC 174.03	Provide month-to-month comparisons and analyses					
TEC 174.04	Analyze expenditures by funding source					
TEC 174.05	Analyze expenditures by organization units					
TEC 174.06	Analyze expenditures by object code					
TEC 175.00	Performance Management Analytical Application should have the following functions/capabilities at a minimum:					
TEC 175.01	Able to track data by various performance indicators					
TEC 175.02	Optimize management use of ABC data by creating OLAP databases and reports that enable decision makers to interactively analyze activity-based information at their desktops					
TEC 176.00	Purchasing Management Analytical Application should have the following functions/capabilities at a minimum:					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 176.01	Provide a number of useful reports and queries that are organized by vendor. These reports and queries should provide the following type of analysis at a minimum:					
TEC 176.02	Number and amount of POs by Vendor					
TEC 176.03	Average delivery time					
TEC 176.04	Comparative analysis of purchases for the last three years					
TEC 176.05	List of top 10 vendors in terms of purchasing amount					
TEC 176.06	Should be able to analyze purchases by buyers for the following things at a minimum:					
TEC 176.07	Number and amount of POs processes by buyer					
TEC 176.08	Commodities purchased off master-contract by buyers					
TEC 176.09	Should be able to analyze the usage of master contracts. This should facilitate the following types of analysis at a minimum:					
TEC 176.10	Amount and number of POs by master contract					
TEC 176.11	Commodities bought on master contract and off of master contract					
TEC 176.12	Should be able to analyze purchases by commodity or commodity group. Examples might include:					
TEC 176.13	Average price paid by commodity with high and lows					
TEC 176.14	Number and amount of POs by commodity					
TEC 176.15	Commodity usage by agency					
TEC 177.00	Workforce Management Analytical Application should have the following functions/capabilities at a minimum:					
TEC 177.01	Analyze workforce by various demographic factors such as gender or race					
TEC 177.02	Stratify and analyze workforce by salary					
TEC 177.03	Stratify and analyze workforce by education					
TEC 177.04	Stratify and analyze workforce by job-type					
TEC 177.05	Leave usage--categories of vacation, sick, comp, time without and military					
TEC 177.06	Leave balances--vacation, sick and comp					
TEC 177.07	Insurance type					
TEC 177.08	County					
TEC 177.09	Months service					
TEC 177.10	EEO categories					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 177.11	Department/division					
TEC 177.12	Retirement type					
TEC 178.00	Data Warehouse shall provide all security features described below for system application components					
	Security and Audit					
TEC 179.00	Complies with HIPAA confidentiality requirements					
TEC 180.00	System must conform to International Standards Organization (ISO) standard 15408. This standard is also called the "Common Criteria."					
TEC 181.00	Integrated with current State security software for all platforms					
TEC 182.00	Logs transactions by user ID.					
TEC 183.00	Provides ability to define which system actions will be logged					
TEC 184.00	Provides historical records (log file) of table updates including the user ID of who made the changes and the actual changes					
TEC 185.00	Allows users to change passwords.					
TEC 186.00	System Administrator can define parameters such as requiring users to use alphanumeric and numeric characters in passwords.					
TEC 187.00	Provides ability to use a single password and logon for all system functions enabled in security profile					
TEC 188.00	Integrates with network security to allow network sign-on to provide system access (parameter based on user selection)					
TEC 189.00	Ability to prohibit concurrent logon with the same ID					
TEC 190.00	Provides the option for system to require password changes periodically.					
TEC 191.00	Administrator can resume and/or revoke passwords.					
TEC 192.00	Deny access to a user after a specified number of denied log on attempts.					
TEC 193.00	Logs off user and generates report to security officer if user attempts to breach system authorized level defined security parameters while on-line based on user defined parameters					
TEC 194.00	Unsuccessful logon attempts are recorded by system and retained for a user defined period of time.					
TEC 195.00	Issues an alert to the end-user and notifies the System Administrator after a specified number of unauthorized log on attempts.					
TEC 196.00	Deactivate user logon id after system administrator defined time of inactivity (days/weeks)					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 197.00	Automatically logoff users after a period of time of inactivity as specified by the administrator (minutes/hours)					
TEC 198.00	Sets security profile to define personnel authorized to:					
TEC 198.01	Log on					
TEC 198.02	Add data					
TEC 198.03	Delete data					
TEC 198.04	Change data					
TEC 198.05	View data					
TEC 198.06	Approve data					
TEC 199.00	Provides the option to restrict data access for each security profile by:					
TEC 199.01	IP Address					
TEC 199.02	Employee id					
TEC 199.03	User id					
TEC 199.04	Any element in the chart of accounts (e.g. grant, project, fund)					
TEC 199.05	Application					
TEC 199.06	Screen					
TEC 199.07	Field					
TEC 199.08	Workstation					
TEC 199.09	Menu					
TEC 199.10	Module					
TEC 199.11	Report					
TEC 199.12	Each field in the Chart of Accounts					
TEC 199.13	Employee status					
TEC 199.14	Transaction type					
TEC 199.15	Document type					
TEC 199.16	Role					
TEC 199.17	Standard report					
TEC 199.18	Ad hoc report					
TEC 200.00	Security profiles are used for all reporting and query functions					
TEC 201.00	Restricts use of data by external report writers, data extracts, etc.					
TEC 202.00	System should support standard Internet security including, but not limited to:					
TEC 202.01	Public Key Infrastructure (PKI)					
TEC 202.02	Digital Certificates					
TEC 202.03	Various levels of encryption					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 202.04	Secure Socket Layers (SSL)					
TEC 202.05	Secure Hypertext Transfer Protocol (HTTPS)					
TEC 202.06	Digital Signatures					
TEC 203.00	Accommodates centralized (one security administrator) security.					
TEC 204.00	Accommodates de-centralized (department application/system security administrators overseen by central security administrator) security.					
TEC 205.00	Provides ability to view or obtain security reports showing:					
TEC 205.01	Authorized system use					
TEC 205.02	Unauthorized system use					
TEC 205.03	Security profiles by user					
TEC 205.04	Security breaches or attempts					
TEC 206.00	Ability to define user profiles					
TEC 206.01	Ability to assign multiple users to a single profile					
TEC 206.02	Ability to define user specific characteristics for a profile without creating a new profile					
TEC 206.03	Ability to provide multiple security profiles to a single user.					
TEC 206.04	Ability to define incompatible combinations of security profiles and to generate warning message to notify administrator if multiple security profiles applied to a single user are conflicting. Such instances should be recorded by system.					
TEC 207.00	Provides the ability to view log files on-line for all changes, deletions, and additions including:					
TEC 207.01	Date / time stamp					
TEC 207.02	User id					
TEC 207.03	Specific input device					
TEC 208.00	Provides record or file encryption using DES standards .					
TEC 209.00	Provide e-commerce security including customer authentication and encryption to protect customer data.					
TEC 210.00	Provide capability to integrate biometric user verification devices					
	Error Methodologies					
TEC 211.00	Error messages appear in a consistent format across all system modules, for both batch and on-line processing. Specifically, error messages have like codes, text and screen locations.					
TEC 212.00	Error messages are integrated with on-line help function.					

TECHNICAL REQUIREMENTS MATRIX

Technical Requirements

Vendor Response Codes:

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

T = Third-Party

Reference Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
TEC 213.00	Provides an error recycle file for rejected batch transactions					
TEC 214.00	Provides a suspense file for rejected or unposted transactions					
TEC 215.00	Provides the capability of producing error statistics by source.					
	Documentation					
TEC 216.00	Provides up-to-date end-user manuals which contain clear and thorough descriptions of all screen and batch processing functions, screen data, programs, and any processing parameters.					
TEC 217.00	Provides on-line documentation for users.					
TEC 218.00	On-line documentation contains search function.					
TEC 219.00	Provides user manuals on cd-rom					
TEC 220.00	Provides comprehensive technical system documentation and technical manuals (geared to information systems personnel) including:					
TEC 221.00	Program descriptions					
TEC 222.00	Screen definitions and descriptions					
TEC 223.00	Database definitions, logical data model, and record layouts					
TEC 224.00	System provides the ability to incorporate user defined documentation (user procedures, business rules, etc.)					
TEC 224.01	Accessible in the same manner as vendor provided documentation					
TEC 224.02	Incorporated into documentation automatically during the upgrade process					